

IMC788-LD+, Quad 5 Amp DMX-512 dimmer pack

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Features

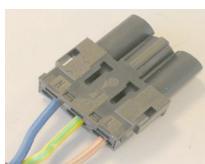
- Four independent dimmer / switch channels, each channel up to 5 Amp output.
- Normal (8 bit), or high resolution (16 bit) dimming.
- 5 pole XLR connectors, conform USITT DMX.
- 0 to 100% dimming or on/off switching channels.
- Controllable by any DMX-512 light controller such as the LanBox-LC
- Short circuit and overload protected without fuses.
- Suited for inductive, ordinary and halogen loads.
- Complies to “Isolated DMX512-A” and DMX-512 USITT 1990.

Installation

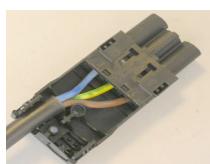
The 788-LD+ can be placed on floor or mounted on a truss with the included hook and loop straps. **Always use the included safety cord when mounting on a location where it could be potentially hazardous!**



Connect your lamps with the included GST18-3 connectors, and connect the mains cable to a 16 amp fused main connection with safety ground. Be sure the main voltage is between 100 and 240 Volt, 50/60 Hz.



step 1



step 2



step 3

At the front end of the 788-LD+, a LED display and two buttons can be found. Press a button for at least 3 seconds so that the displayed DMX address starts blinking. Set the address to 0, so the pack enters the test mode. Your lamps should fade in and turned off one by one. After this test set the DMX address of the pack e.g. to 1. You should now be able to use the channels A, B, C and D by setting DMX channels 1-4 on your DMX controller. In high resolution (H=1) mode, it needs two DMX addresses per output channel (course, fine; 16 bit).

Connecting the 788-LD+ to a DMX controller

To connect the 788-LD+ to your DMX controller, take the following steps:

- Connect the data output of your DMX controller to the DMX input of the 788-LD using 5-pin XLR cable, which is standard DMX cable. Possibly your DMX controller has a 3-pin XLR data output in which case you should use a cable that adapts from 3- to 5-pin XLR.
- If you are using only one 788-LD+, insert a termination plug into the DMX output connector of the dimmer pack.
- If you are using more than one DMX device, connect the data output of each device to the data input of the next device. The order in which the devices are connected together is not important so the most efficient cabling route may be used. Plug a XLR termination plug into the last DMX device in the link.
- Possibly you want to connect 3-pin and 5-pin DMX devices together in one link. In that case you should adapt from 3- to 5-pin XLR or from 5- to 3-pin XLR.
- Check the DMX activity indication indicator on the 788-LD+, this is the rightmost decimal point on the display, and if available a DMX activity indication LED on the DMX controller. These indicators should flicker vaguely providing that the controller is active. If the indication LED is constantly off or constantly on, your cabling is not correct.

Note: The LED display is normally off. When you press one of the buttons, the base DMX address and channel temperatures (in tens of degrees Celsius) is shown.

Note: The intensity of the display depends on the number of characters shown, and the main voltage.

Note: The 788-LD+ has isolated DMX connections, so you don't have to worry about ground loops. Be sure that the shield of the DMX cable is ONLY connected to pin 1 of the XLR (NOT to the housing, ground of the XLR).

**Note: Mains cable colouring in Europe is:
L = Brown, N = Blue, Ground = Green-yellow**

Tip: Obtain USITT publication “Recommended Practice for DMX512”, as it contains very useful information about DMX installations.

Operation

A DMX controller can select the dimming percentage of each output. The selected DMX base channel number plus 3 (7 in high res mode) subsequent DMX channels are occupied by the 788-LD+. The dimmer outputs will go to the dimming percentage selected by the DMX controller immediately after the DMX controller modifies this setting. The DMX values 0-255 (0,0 - 255,255 in high res mode) represents 100-0% dimming, or 0-100% intensity.

Channel modes

Default all four channels of the 788-LD+ are in dimming mode, but there are 4 operating modes for each channel, namely: Dim, Switch, Off and On. The mode can be set by pressing **both** buttons for at least 3 sec. The plus button can then be used to select between the channels and "H", while the minus button toggles between the modes.

High resolution mode

When the H channel mode is set to 1 the dimmer pack is in high resolution mode, and uses two DMX addresses for one channel. This mode is recommended for very smooth dimming of e.g. FL tubes and other fast reacting lamps.

Overload and short circuit protection

When the 788-LD+ senses a short circuit situation, all outputs are switched off immediately and the display shows a blinking "S". When a channel becomes overloaded, the output is switched off and the display shows a blinking channel letter (a, b, c or d). After the overload situation has been solved, normal operation will resume after the 788-LD+ internal temperature drops below the critical value. A short circuit condition is detected if a current of more than 100 A flows for some short period of time. This mechanism provides an adequate short circuit protection.

However, when switching on cold lights, a current equal to approximately 10 times the regular current will flow for a short period of time. This means that when switching on 4 lights of 1 kW (at 230V) , a current of approx. $4 \times 40 = 160$ Amp will flow, causing the protection mechanism to detect a short circuit. All outputs will be switched off. To avoid this problem, set the lights to the least possible output setting, thus almost maximal dimmed, the lights will be warmed continuously.

DMX indication

The green rightmost decimal dot of the display indicates DMX activity and may be helpful searching for problems in DMX cabling or connection. In an erroneous situation, the green dot is off or lights at an alarming fierceness. Possible problems in the DMX cabling are: bad connections, short-circuits or twisted polarity of the DMX signals.

Technical specifications

Power supply: 100-240 Vac ; 50/60 Hz ; 16A
Ambient temperature: 0...+40 Degrees Celsius
Humidity: 30...90% RH
Dimensions: 205 x 105 x 56 mm
Output per channel: max. 5A, @25°C
Resolution: 256 or 1024 steps dimming.

This device complies with the European low voltage directive and the European EMC directive according to the following standards:

Electrical safety: EN 60950: 2002
Emission: EN 55015: 2000 + A1: 2002 + A2: 2002
Immunity: EN-IEC 61000-6-2: 2001

Due to low frequency harmonics and heavy load fluctuations one must have official approval of the authorities to use this professional device. on a public main supply.

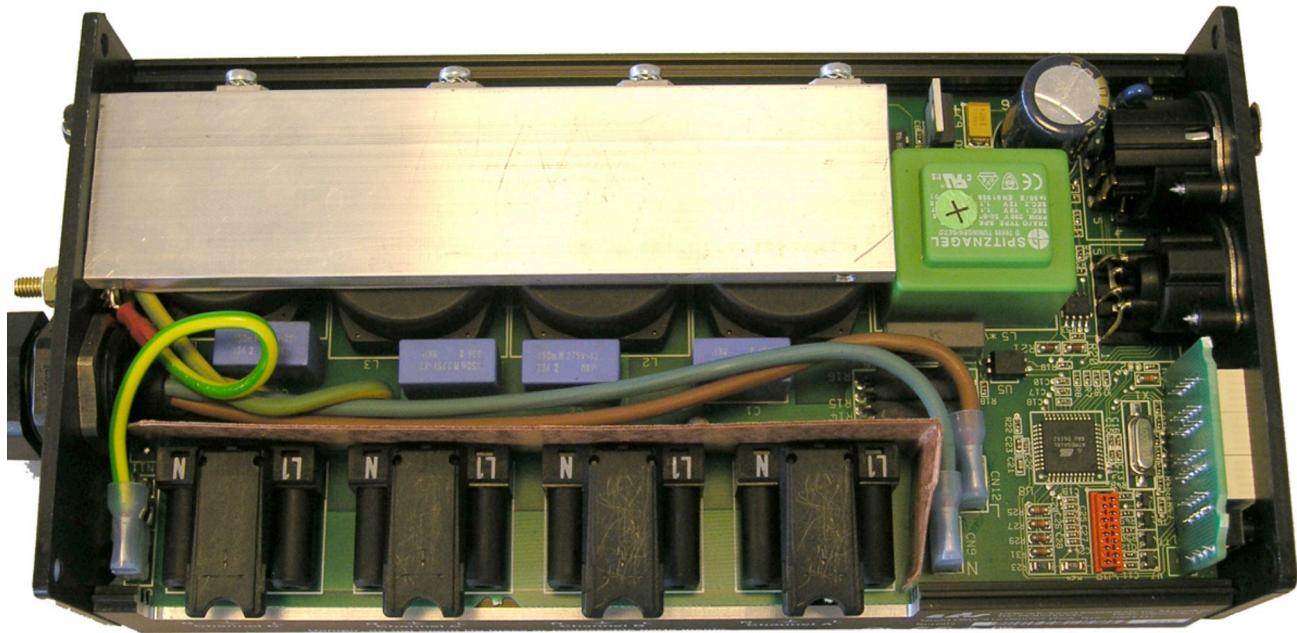
FCC

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Safety instructions

- The 788-LD+ is grounded through the power cord. To avoid electric shock, connect the power cord into a properly wired receptacle where earth ground has been verified by a qualified service person.
- Be aware that the housing can become very hot (up to 75 degrees centigrade), this is normal.
- To avoid personal injury and warrant proper operation, do not remove covers or panels from the 788-LD+.
- Do not use the 788-LD+ in humid, more than 90% RH environments.
- If the 788-LD+ must be mounted on a location where it could be potentially hazardous if the connection would get loose, additional precautionary measures should be taken; **Use the included safety cord!**

Inside the 788-LD⁺

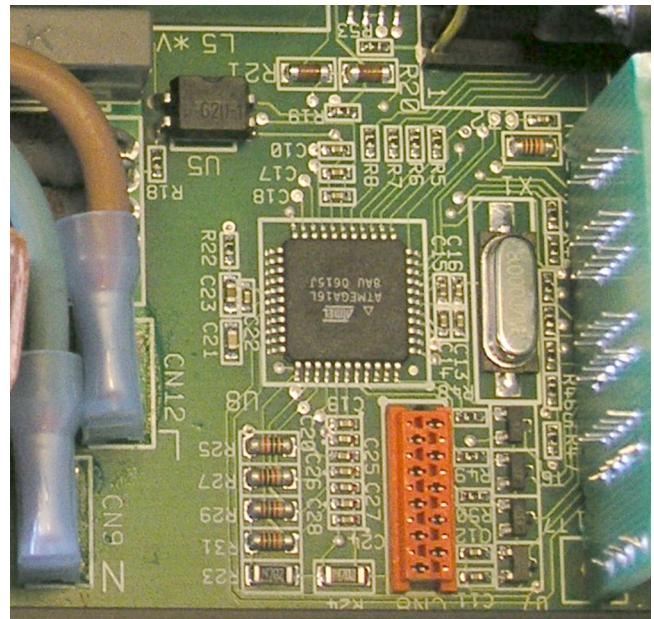


As we do not advice to open the dimmer, we provided a picture of the inside, and a detail picture of the electronics.

As you can see it's very compact, and there have been used advanced techniques. Like the black potted filter coils are cooled, by using very special heat conducting foam, which also make contact with the top of the green transformer.

The coil heat is transferred to the housing via the foam and the big aluminium strip. A same strip is used to transfer the triac heat to the housing.

The coil temperature is measured by temperature sensors below each coil.



A modern single chip micro computer is used to control the triacs, and to handle DMX and the display.